Transform Health

Digital Transformation of Community Health for Universal Health Coverage

White paper

Developed by Transform Health in partnership with

medic · LivingGoods · Tdh · VillageReach · D-tree · TIP Global Health

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About Transform Health

Transform Health is a global coalition of organisations, individuals, and institutions committed to achieving universal health coverage through the use of digital technologies and data. To learn more about Transform Health, visit www.transformhealthcoalition.org

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Executive Summary

The world is off track to achieve universal health coverage (UHC) by 2030, which governments committed to in 2015 under the Sustainable Development Goals (SDGs). Currently, about 4.5 billion people still lack full access to essential health services.[1] Health service coverage has stagnated since 2015. The number of people incurring catastrophic out-of-pocket health spending surpassed one billion people. In addition, 344 million people were pushed into extreme poverty and 1.3 billion into relative poverty due to out-of-pocket health spending.[2] In low and lower-middle-income countries (LMICs) the burden of disease and trends in morbidity and mortality are also changing. Many LMICs are facing a "double burden" of diseases,[3] where the growing incidence of noncommunicable diseases (NCDs) co-exists with infectious diseases. This is putting additional pressure on health systems that continue to suffer from limited infrastructure, healthcare workforce shortages, and low health financing, further hampering their efforts to achieve UHC.

Governments are increasingly recognising the importance of community health, delivered by community health workers (CHWs) and others, such as pharmacies, schools, and other community centres. These have the potential to maintain the health and well-being of the population and accelerate UHC. Digital technology can optimise and enhance community health by improving access to healthcare, facilitating remote monitoring, and empowering individuals with health information. This can lead to better health outcomes, lower hospitalisation rates, and cost savings. Digitally enabled community-centred care has the potential to create an interconnected ecosystem, grounded in a digitally enabled community health workforce able to respond more effectively to the health needs of communities. This could reduce health inequities through reducing time to diagnosis and loss of follow-up; extend health information and services to diverse areas; improve referrals, adherence to treatment plans, and public health measures (such as sleeping under bednets); and increase self-efficacy of patients and CHWs.

Community health can alleviate the burden on the health system by keeping people healthy in the community for longer, allowing the health system to focus on issues requiring more specialised care, and accelerate UHC. It can extend access to traditionally underserved populations in informal communities, rural and remote locations, and other environments that the traditional facility-based health system does not effectively reach – including all 4.5 billion who currently lack such services

Digital technology can address access challenges faced by CHW[4] and other community structures, supporting them to carry out their work more effectively[5], ensuring they are more integrated into the healthcare system. There have been positive examples of programmes to digitally enable CHWs that have successfully scaled.[6] Governments and parliaments have a vital role to play in ensuring community health is able to fulfil its potential and fully contribute to

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[1] World Bank. *Tracking Universal Health Coverage: 2023 Global Monitoring Report*. Washington, D.C.: World Bank, Year. Open Knowledge World Bank.
https://openknowledge.worldbank.org/entities/publication/1ced1b12-896e-49f1-ab6f-f1a95325f39b

[2] ibid

[3] Li, Z., Shi, J., Li, N. *et al.* Temporal trends in the burden of non-communicable diseases in countries with the highest malaria burden, 1990–2019: Evaluating the double burden of non-communicable and communicable diseases in epidemiological transition. *Global Health* 18, 90 (2022). https://doi.org/10.1186/s12992-022-00882-w

[4] https://joinchic.org/resources/the-case-for-chws-champions-of-the-health-system/

[5] Greuel M, Sy F, Bärnighausen T, Adam M, Vandormael A, Gates J, Harling G
Community Health Worker Use of Smart Devices for Health Promotion: Scoping Review
JMIR Mhealth Uhealth 2023;11:e42023 . Accessed 15 May 2025

[6] For example the Digitally empowered, Equipped, Supervised, and Compensated (DESC) programme.

accelerating UHC. They need to ensure CHW,s in particular, are adequately recognised and fully integrated into the health system.[7] Through laws, regulations, policies, and funding decisions, and by mandating the establishment of adequate management and accountability structures across government departments, politicians can create incentives and governance structures that will compel programme developers and implementers, innovators, the health workforce, and others to ensure community health programmes are digitalised and fully integrated into the health system. This agenda aligns with the **WHO Global Strategy on Digital Health (2020–2025)**, the **Sustainable Development Goal 3.8** on UHC, and the **Global Digital Compact**, reflecting a shared global vision for inclusive and rights-based digital health systems.

Legislation, regulation, policies, and guidance are critical aspects of national plans and commitments to digitally transform community health and accelerate UHC by ensuring prevention and care in the community, particularly among marginalised and hard-to-reach populations. Legislation and regulation on the digital transformation of community health sends a signal to the wider ecosystem that the government is committed to the issue and willing to back this commitment with the force of law. This commitment compels all service providers, innovators, and the private sector to place communities at the centre, and fully integrate community health into their programmes and into the health system through the use of digital tools and technology. Legislation, regulation, and policies on digital health that include community health, accompanied by the necessary digital infrastructure, are critical to operationalise this vision.

In this paper, Transform Health makes the case that the digital transformation of community health could accelerate UHC in LMICs by increasing population coverage, extending service coverage, linking community health providers more effectively to the health system, and providing greater financial protection through different health insurance and service payment modalities that would prevent catastrophic out-of-pocket expenses for health.[8]

[7] Uta Lehmann, Nana A Y Twum-Danso, Jennifer Nyoni - Towards universal health coverage: what are the system requirements for effective large-scale community health worker programmes?: BMJ Global Health 2019;4:e001046.
[8] See the WHO's Tracking Universal Health Coverage: 2023 Global monitoring report.

Recommendations:

Transform Health recommends the development of a new policy framework, underpinned by an enabling legislative and regulatory environment, and adequate resources to support the implementation of a digitally enabled community health approach and accelerate progress towards UHC. Such a framework would mandate the following:

1. National digital health strategy[9] that includes community health, and the expansion to digital infrastructure, as an essential component of digitally enabled primary care. National strategy should integrate public, private, and informal providers, including CHW and community pharmacies. It should also set out how digital tools and technology will allow communities and local authorities to report on health-related issues, and should be developed with community representatives.
2. Strengthen national health data governance legislation on health data governance.[10]
3. Develop legislation and regulation to define, formalise, and digitalise the required digital health architecture and interoperability mechanisms to integrate community health systems with the primary health care system and other social protection systems. This legislation and regulation should be developed with community representatives.
4. Establish sustainable financing mechanisms to support the digital transformation of community health at scale, ensuring adequate funding for both initial setup and ongoing maintenance.

[9] Aligned to the WHO Global Digital Health Strategy

[10] The model law provides a legislative guide for governments to use (fully or in part) to strengthen national legislative and regulatory frameworks on health data governance in line with principles of equity, inclusion and human rights . The model law was developed through a consultative process, engaging over 1000 stakeholders across the globe.

1. Introduction

The world is off track to achieve universal health coverage (UHC) by 2030, which governments committed to in 2015 under the Sustainable Development Goals (SDGs). Currently, 4.5 billion people still lack full access to essential health services.[11] According to the World Bank and World Health Organization (WHO), health service coverage has stagnated since 2015. There has been minimal to no expansion of health service coverage. The number of people incurring catastrophic out-of-pocket health spending increased from 9.6% in 2000 to 13.5% in 2019, surpassing one billion people.[12] In addition, 344 million people were pushed into extreme poverty and 1.3 billion into relative poverty due to out-of-pocket health spending.[13] Donor funding is contracting, leaving many governments to make hard choices that often sacrifice long-term system transformation.

Additionally, the burden of disease and trends in morbidity and mortality in low-income countries (LICs) and lower middle-income countries (LMICs) are changing. People in many of these countries have historically tended to suffer more from infectious diseases, high levels of maternal and child mortality, and malnutrition.[14] However, as healthcare access improves and life expectancy increases, non-communicable diseases (NCDs) such as cardiovascular disease, strokes, diabetes, and cancers are becoming more prominent.[15]

Many LMICs now face a "double burden" of diseases,[16] where the growing incidence of NCDs co-exists with infectious diseases, straining under-resourced health systems. This is putting additional pressure on health systems that continue to suffer from limited infrastructure, healthcare workforce shortages, and low health financing, further hampering efforts to achieve UHC. This is due to urbanisation and changes in lifestyle leading to changes in diet, reduced physical activity, increased tobacco and alcohol use, and exposure to pollution and overcrowding in urban areas, all of which are risk factors for non-communicable diseases.[17] Urbanisation also increases the incidence of traffic accidents. The changing disease profile is also due to demographic changes that are seeing the birth of fewer children and an aging population living longer, but often with chronic conditions, increasing demand for long-term and palliative healthcare.

Climate change is also having a negative effect, including direct health threats from increases in temperature and humidity, increasing number and severity of emergencies, and infrastructure impacts from heat-driven national disasters, as well as leading to increases in vector-borne

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[11] World Bank. *Tracking Universal Health Coverage: 2023 Global Monitoring Report*. Washington, D.C.: World Bank, Year. Open Knowledge World Bank. https://openknowledge.worldbank.org/entities/publication/1ced1b12-896e-49f1-ab6f-f1a95325f39b

[12] ibid

[13] ibid

[14] Coates MM, Ezzati M, Robles Aguilar G, Kwan GF, Vigo D, et al. (2021) Burden of disease among the world's poorest billion people: An expert-informed secondary analysis of Global Burden of Disease estimates. PLOS ONE 16(8): e0253073. Accessed on 15 May 2025

[15] Piot P, Caldwell A, Lamptey P, Nyrirenda M, Mehra S, Cahill K, Aerts A. Addressing the growing burden of non-communicable disease by leveraging lessons from infectious disease management. J Glob Health. 2016 Jun;6(1):010304. doi: 10.7189/jogh.06.010304. PMID: 26955469; PMCID: PMC4766788. Accessed on 15 May 2025

[16] Li, Z., Shi, J., Li, N. *et al.* Temporal trends in the burden of non-communicable diseases in countries with the highest malaria burden, 1990–2019: Evaluating the double burden of non-communicable and communicable diseases in epidemiological transition. *Global Health* 18, 90 (2022). https://doi.org/10.1186/s12992-022-00882-w

[17] https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases#:~:text=Behavioural%20risk%20factors%20increase%20the,harmful%20use%20of%20alcohol;%20and.

diseases (such as malaria and dengue) and water-borne diseases due to floods and droughts.[18,19] Changes in rain patterns are also impacting agricultural production and may lead to food insecurity and malnutrition in certain areas until adaptation processes are found, both at the health system level[20] and at the community level.[21]

The increasing interaction between animals and humans, driven by climate change and population growth, is leading to the increased incidence of zoonotic spread, leading to unprecedented public health outbreaks such as Ebola and MPOX, among others.[22] [23] The increasing use of antibiotics, for both human and animal health, is also leading to the spread of antimicrobial-resistant (AMR) bacteria.

Community health approaches can help alleviate the burden on the health system by keeping people healthy, allowing the health system to focus on complex issues requiring more specialised care. Evidence increasingly demonstrates[24] that digitalised community health systems yield significant cost-efficiency gains, reducing unnecessary hospitalisations, improving supply chain management, and enhancing the timeliness and accuracy of health reporting. These gains translate into stronger performance across prevention, diagnosis, and follow-up care, driving value for both health systems and populations served.

Transform Health and its coalition partners believe that the digital transformation of community health could accelerate UHC in LMICs by increasing population coverage, extending service coverage, linking community health providers up more effectively to the health system, and providing greater financial protection through different health insurance and service payment modalities that would prevent catastrophic out-of-pocket expenses for health.[25]

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[18] Campbell-Lendrum, D., Neville, T., Schweizer, C. *et al.* Climate change and health: three grand challenges. *Nat Med* 29, 1631–1638 (2023). https://doi.org/10.1038/s41591-023-02438-w , Accessed on 15 May 2025

[19] The 2022 report of the *Lancet* Countdown on health and climate change: health at the mercy of fossil fuels; Romanello, Marina et al.; The Lancet, Volume 400, Issue 10363, 1619 - 1654. Accessed on 15 May 2025

[20] Ansah, E.W., Amoadu, M., Obeng, P. *et al.* Health systems response to climate change adaptation: a scoping review of global evidence. *BMC Public Health* 24, 2015 (2024). https://doi.org/10.1186/s12889-024-19459-w

[21] Ebi, Kristie L. et al. 2008 Community-Based Adaptation to the Health Impacts of Climate Change; American Journal of Preventive Medicine, Volume 35, Issue 5, 501 - 507. Accessed on 15 May 2025

[22] Twin threats: climate change and zoonoses, 2023,The Lancet Infectious Diseases, The Lancet Infectious Diseases, Volume 23, Issue 1, 1. Accessed on 15 May 2025

[23] Carlson, C.J., Albery, G.F., Merow, C. *et al.2022:* Climate change increases ross-species viral transmission risk. *Nature* 607, 555–562 (2022). https://doi.org/10.1038/s41586-022-04788-w . Accessed on 15 May 2025

[24] Gentili A, Failla G, Melnyk A, Puleo V, Tanna GLD, Ricciardi W, Cascini F. The cost-effectiveness of digital health interventions: A systematic review of the literature. Front Public Health. 2022 Aug 11;10:787135. doi: 10.3389/fpubh.2022.787135. PMID: 36033812; PMCID: PMC9403754.

[25] See the WHO's Tracking Universal Health Coverage: 2023 Global monitoring report.

Community Health

Community health refers to the well-being of a group of people living in a specific geographic area or sharing common characteristics. It focuses on improving health outcomes, preventing diseases, and promoting healthy behaviors through collective efforts, public policies, and healthcare services that can be delivered at the community level. Building on the definition of the American Hospital Association, we define community health as: community based approaches for improving health, preventing disease and reducing health disparities through addressing social (including digital), behavioral, environmental, economic and medical determinants of health in a geographically or socially defined population, that includes basic clinical interventions that can be administered at local level. We recognise communities as relational spaces characterised by social interactions and the exchange of information. From a health perspective this is very important as the first point of contact of an individual on a health related matter will be a member of the family or community.

Community health includes:

- **Health Education**: Spreading awareness about disease prevention and healthy lifestyles.
- **Preventive Care**: Vaccinations, screenings, and early interventions.
- **Access to Healthcare**: Ensuring medical services, including durative care, are available and affordable by the community.
- **Environmental Health**: Addressing pollution, sanitation, and living conditions.
- **Social Determinants**: Considering factors like income, education, and housing that affect health outcomes.

Community health can be seen as an extension of primary health into the community and also a means of reducing demand on the PHC system by maintaining people healthy in their communities for longer through addressing social determinants of health as well as individual behaviors, the physical environment, and access to healthcare. The Health in All Policies (HiAP) framework, adopted by many governments helps achieve this. The WHO defines primary health as "a whole-of-society approach to health that aims at ensuring the highest possible level of health and well-being and their equitable distribution by focusing on people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment.

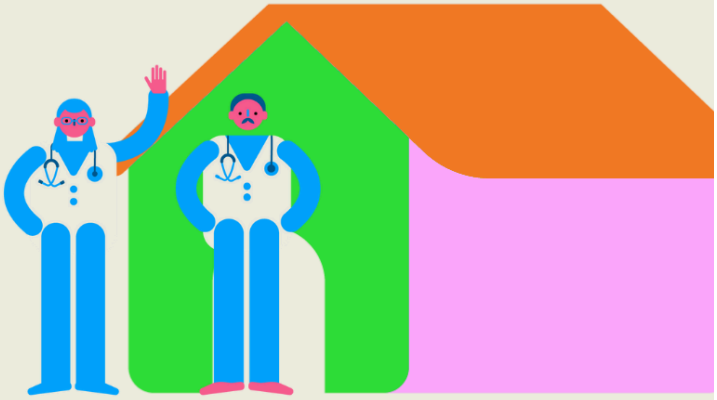
The WHO goes on to set out the three key components of primary health:

- integrated health services to meet people's health needs throughout their lives
- addressing the broader determinants of health through multisectoral policy and action
- empowering individuals, families and communities to take charge of their own health.

There is a blurred line between primary health and community health. One of the ways to unpick the two is to consider the provider. Primary health is provided by professional primary healthcare workers and sometimes not part of the communities they serve. Community health providers (professional or otherwise) tend to be provided by people from the community outside of the clinical context. Community health is also preventive and relies on the active engagement of multiple sectors through the HiAP approach.

Governments are increasingly recognising the importance of community health in maintaining the health and well-being of their population and accelerating UHC. Community health interventions, delivered by community health workers and others, such as pharmacies, have the potential to create a community-based health ecosystem that can provide healthcare at the local level, and alleviate strains on other parts of the health system.

In many low and middle income countries this capacity will be one of the most effective ways to achieve UHC. According to Khatri, Endalamaw and Erku community health programmes " contribute to equity and universal coverage by identifying local health inequities and engaging local stakeholders.



The **Health in All Policies (HiAP)** is an approach to policy making that integrates health considerations into decision-making across all sectors, aiming to improve population health and equity. The Helsinki Framework on Health in All Policies defines HiAP as: " an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity. It improves accountability of policymakers for health impacts at all levels of policy-making. It includes an emphasis on the consequences of public policies on health systems, determinants of health and well-being."

The approach recognises the critical role of the social determinants of health on health outcomes. The HiAP framework emphasises collaboration between the health sector and other sectors like transportation, housing, education, and environment. It involves identifying how policies in different sectors can impact health and working together to create synergies and minimise unintended negative consequences. HiAP can foster better communication and collaboration between different sectors, leading to more effective policy making and reducing the overall cost of healthcare by maintaining populations healthier in their communities for longer.

2. Challenges in community health

Community health faces many challenges, including social and cultural (local power relations, norms and attitudes that shape behaviour) which impact social determinants of health and health seeking behaviour. Other challenges are institutional (workforce shortages or inadequate training, support, recognition and payment, disparities in access to care, inadequate funding, lack of access to equipment, drug shortages and stockouts, poor coordination, weak institutional support) or structural (poor connectivity, poor infrastructure, lack of enterprise-ready solutions, and parallel systems). There is also a lack of policy and regulatory guidance to incentivise a more holistic approach to community health.A lack of coordination among different entities, and weak information exchange leads to segmented and fragmented responses.

Furthermore, this is compounded by the weak institutional support for CHWs who experience limited training, lack of supplies, weak integration into the health system, low or no pay and poor job security, heavy workloads, which can be emotionally draining, lack of recognition and institutional support, weak supervision, linguistic and cultural barriers, including stigma and discrimination in some contexts, limited or no access to technology, weak or no digital connectivity or even access to power and other infrastructure [26,27]

Addressing these challenges requires a multifaceted approach:

- formal training,
- better supervision and career development,
- improved integration into health systems (including by ensuring more responsive supply chains) better support,[28]
- compensation, and
- provisioned resources and technology.

One of the most effective means of achieving this is through national legislation and regulation that clearly defines roles and responsibilities across the community health ecosystem and broader public sector. This ensures a more standardised approach to community health, enabling economies of scale and greater integration with the primary healthcare system. Effective legislation and regulation ensures CHWs are adequately salaried, skilled, supplied, and supervised, as highlighted by the Community Health Impact Coalition[29], and contributing more effectively to the health outcomes of the communities they serve. It would also create incentives for greater collaboration between community actors to achieve positive health outcomes together.

In 2018 the WHO developed a set of guidelines on policy and system support to optimise CHW programmes, in which they made a set of recommendations, including competency-based certification, supportive supervision, remuneration, contracting agreements, career progression,

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[26] Johnson LJ, Schopp LH, Waggie F, Frantz JM. Challenges experienced by community health workers and their motivation to attend a self-management programme. Afr J Prim Health Care Fam Med. 2022 Jan 12;14(1):e1-e9. doi: 10.4102/phcfm.v14i1.2911. PMID: 35144456; PMCID: PMC8831930.

[27] Pallas SW, Minhas D, Pérez-Escamilla R, Taylor L, Curry L, Bradley EH. Community health workers in low- and middle-income countries: what do we know about scaling up and sustainability? Am J Public Health. 2013 Jul;103(7):e74-82. doi: 10.2105/AJPH.2012.301102. Epub 2013 May 16. PMID: 23678926; PMCID: PMC3682607.Accessed on 15 May 2025

[28] Musoke D, Atusingwize E, Ndejjo R, Ssemugabo C, Siebert P, Gibson L. Enhancing Performance and Sustainability of Community Health Worker Programs in Uganda: Lessons and Experiences From Stakeholders. Glob Health Sci Pract. 2021 Dec 21;9(4):855-868. doi: 10.9745/GHSP-D-21-00260. PMID: 34933981; PMCID: PMC8691894.Accessed 15 may 2025

[29] https://joinchic.org/resources/the-case-for-chws-champions-of-the-health-system/

adequate supplies (including through access to digital tools and integration into supply chains).[30] Digital technologies offer a means through which many of the challenges faced by CHW can be addressed, creating a far more integrated community health ecosystem.

Social media platforms have an important role to play in ensuring people receive accurate health information. The power of these platforms to shape public attitudes and behaviour is likely to grow with the accelerated adoption of AI. Unfortunately, legislation on due diligence and accountability remains unclear; social media platforms continue to advance health misinformation and disinformation as a means of optimising audience engagement, sometimes to the detriment of the audience's health and well-being.[31,32]

Legislation and regulation also limit the potential of local institutions to maximise the use of digital tools and technology for health-related purposes. For example, in many contexts, local pharmacists' ability to formally respond to their community's health needs is often stymied by government legislation and regulation that prevents them from engaging in activities such as medication therapy management, chronic disease monitoring, and preventive care.[33] Changes in regulation that incentivise the digitalisation of community pharmacies could leverage the important role local pharmacies have as frontline health providers and accelerate UHC.

Other community systems and structures are also important in maintaining community health and well-being. These include local religious institutions, community social and welfare groups, schools, businesses, local media, and local government officials or local decision makers. They also include digital platforms such as Google, YouTube, and social networking sites such as Facebook, TikTok and others. In certain communities, the penetration of digital technology in health is seen in remote monitoring devices and telemedicine. These institutions and structures, platforms and devices shape attitudes and behaviour through the provision and circulation of information and advice, and through the redefinition of the notion of healthcare at the local level, which has the potential to create virtual circles of health and well-being, or not. Instances abound of situations where access to biased or inaccurate information has had a damaging or detrimental impact on people's health and well-being,[34] anti-vaccination movements are but one example. While not all systems and structures have a duty obligation to a community's health and well-being, those that do have an important role to play in working with CHWs, and within an integrated community care information system, towards this common goal.

3. Digital transformation: an opportunity for integrated community health to achieve UHC

Digital technology can optimise and enhance community health by improving access to healthcare, facilitating remote monitoring, and empowering individuals with health information, leading to better health outcomes, lower hospitalisation rates, and cost savings**. The digital**

[30] See WHO guideline on health policy and system support to optimize community health worker programmes
[31] Artificial intelligence in public health: promises, challenges, and an agenda for policy makers and public health institutions; Panteli, Dimitra et al. The Lancet Public Health, Volume 10, Issue 5, e428 - e432. Accessed on 19 May 2025
[32] Borges do Nascimento IJ, Pizarro AB, Almeida JM, Azzopardi-Muscat N, Gonçalves MA, Björklund M, Novillo-Ortiz D. Infodemics and health misinformation: a systematic review of reviews. Bull World Health Organ. 2022 Sep 1;100(9):544-561. doi: 10.2471/BLT.21.287654. Epub 2022 Jun 30. PMID: 36062247; PMCID: PMC9421549. Accessed on 19 May 2025
[33] Kheir, N. (2025). The paradox of community pharmacy practice in low- and middle-income countries (LMICs). *Journal of Pharmaceutical Policy and Practice*, *18*(1). https://doi.org/10.1080/20523211.2025.2475082. Accessed on 15 May 2025
[34] Zollo F, Baronchelli A, Betsch C, Delmastro M, Quattrociocchi W. Understanding the complex links between social media and health behaviour BMJ 2024; 385 :e075645 doi:10.1136/bmj-2023-075645

transformation of community health has the potential to create an interconnected ecosystem, grounded in a digitally enabled community health workforce able to respond more effectively to the health needs of communities. This has the potential of reducing time to diagnosis; extending health information and services to diverse areas; improving adherence to treatment plans; increasing self-efficacy of patients and CHWs; and reducing health inequities.

CHWs are a critical pillar of the community health ecosystem.[35] They provide an invaluable service to both communities and to the health systems, particularly in low and middle-income countries. CHWs act as a bridge between the formal health system and communities[36], providing preventive care, supporting patients with continuity of care in the community,[37] monitoring patients with chronic health conditions, and providing invaluable health advice to community members[38], such as the importance of breastfeeding or handwashing. CHWs also help people navigate the health system and are often the first referral point. They ensure compliance with care and treatment plans and track follow-up visits. These interventions ensure people remain healthy in their communities or are adequately cared for, reducing the burden on resource-constrained facilities and the health system as a whole.

In many communities, CHWs are formal points of referral to higher levels of the primary care system. Their role can be strengthened and augmented by digital transformation. However, in many communities, pharmacies are often the first point of engagement between patients and the healthcare system – often the first option for people seeking health advice and attention. Pharmacists can provide health advice, ensure patients follow treatment plans, and act as informal points of referral to the health system. Many unofficially 'prescribe' medication based on a patient's description of symptoms (pharmacies are often the first point of diagnosis for some prevalent diseases such as malaria and typhoid). Similar to CHWs, digital tools can connect pharmacists to health information systems and to other health professionals, thereby enabling them to address health concerns at the local level.

Digitalising community health is not a single intervention; it is the cornerstone of a whole-of-society ecosystem that connects frontline health workers, communities, and systems. **When thoughtfully designed, digitalisation strengthens linkages between CHWs, local health facilities, hospitals, pharmacies, local government structures, enabling real-time coordination and data-driven decision-making.** This interconnected approach ensures that

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[35] There are different types of community health workers based on level or training or employment status (whether formally employed or not). See: Olaniran A, Smith H, Unkels R, Bar-Zeev S, van den Broek N. Who is a community health worker? - a systematic review of definitions. Glob Health Action. 2017;10(1):1272223. doi: 10.1080/16549716.2017.1272223. PMID: 28222653; PMCID: PMC5328349. Accessed on 15 May 2025 and see also Hodgins S, Lehmann U, Perry H, Leydon N, Scott K, et al. (2025) Comparing apples with apples: A proposed taxonomy for "Community Health Workers" and other front-line health workers for international comparisons. PLOS Global Public Health 5(2): e0004156. https://doi.org/10.1371/journal.pgph.0004156 , Accessed on 15 May 2025

[36] White EE, Downey J, Sathananthan V, Kanjee Z, Kenny A, Waters A, Rabinowich J, Raghavan M, Dorr L, Halder A, Nyumah J, Duokie D, Boima T, Panjabi R, Siedner MJ, Kraemer JD. A Community Health Worker Intervention to Increase Childhood Disease Treatment Coverage in Rural Liberia: A Controlled Before-and-After Evaluation. Am J Public Health. 2018 Sep;108(9):1252-1259. doi: 10.2105/AJPH.2018.304555. Epub 2018 Jul 19. PMID: 30024811; PMCID: PMC6085010. Accessed 15 May 2025

[37] Emily B Wroe, Basimenye Nhlema, Elizabeth L Dunbar, Alexandra V Kulinkina, Chiyembekezo Kachimanga, Moses Aron, Luckson Dullie, Henry Makungwa, Benson Chabwera, Benson Phiri, Lawrence Nazimera, Enoch P L Ndarama, Annie Michaelis, Ryan McBain, Celia Brown, Daniel Palazuelos, Richard Lilford, Samuel I Watson - A household-based community health worker programme for non-communicable disease, malnutrition, tuberculosis, HIV and maternal health: a stepped-wedge cluster randomised controlled trial in Neno District, Malawi: BMJ Global Health 2021;6:e006535 Accessed 15 May 2025

[38] Hartzler AL, Tuzzio L, Hsu C, Wagner EH. Roles and Functions of Community Health Workers in Primary Care. Ann Fam Med. 2018 May;16(3):240-245. doi: 10.1370/afm.2208. PMID: 29760028; PMCID: PMC5951253. Accessed 15 May 2025

every household, particularly in underserved areas, becomes visible within the health ecosystem.

Digitalising community health systems would create a far more integrated community health ecosystem where pharmacists and community health workers alike are able to stay updated with medical advice and treatment guidelines through online training and access to information.[39] Digital systems can increase the overall efficiency of the health product supply chain[40], drive up quality and standards, improve inventory management and prevent stockouts. Digitally connected community pharmacies are increasingly leveraging these systems to better manage their businesses and respond to the healthcare needs of the population.

AI can support CHW and local pharmacies by optimising and enhancing their work. For example, through route optimisation, task prioritisation, increasing digital capabilities, and just-in-time learning and support. AI can analyse data sets across different health functions and compare this to demographic data and better forecast patient needs in the community, thereby optimising procurement, ensuring pharmacies are adequately stocked with essential medicine, and reducing risks of over- or inadequate stock[41].

Equally vital is embedding governance and accountability into every phase of digitalisation. Ensuring data protection, ethical use of AI, and gender-sensitive data collection builds trust and enhances community participation. When communities understand how their data is used and see tangible benefits, they are more likely to engage, report, and co-own health outcomes.[42]

Ultimately, a digitalised community health ecosystem lays the foundation for resilient, equitable, and people-centred health systems, a prerequisite for achieving UHC and health security in the digital age.

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[39] Greuel M, Sy F, Bärnighausen T, Adam M, Vandormael A, Gates J, Harling G: Community Health Worker Use of Smart Devices for Health Promotion: Scoping Review; JMIR Mhealth Uhealth 2023;11:e42023 . Accessed 15 May 2025

[40] Michael R. Reich. (2024) Introduction to the Special Issue on Digital Health: Opportunities and Challenges for Global Health. *Health Systems & Reform* 10:2.Accessed 15 May 2025.

[41] Zahra Amiri. Leveraging AI-Enabled Information Systems for Healthcare Management. *Journal of Computer Information Systems* 0:0, pages 1-28.

[42] Alomar D, Almashmoum M, Eleftheriou I, Whelan P, Ainsworth J: The Impact of Patient Access to Electronic Health Records on Health Care Engagement: Systematic Review; J Med Internet Res 2024;26:e56473; doi: 10.2196/56473; PMID: 39566058; PMCID: 11618012

4. Successful digitally enabled community health programmes

There have been positive examples of programmes to digitally enable CHW that have successfully scaled[43].

In Zanzibar **D-Tree**, working with the government, established a cadre of community health volunteers, trained to use a mobile app to guide service delivery and data collection for home-based health services. The programme, Jamii Ni Afya, led to improved service delivery, access to real-time data, efficient management of resources, and continuous quality improvement. As a result the government of Tanzania adopted the model and scaled it to the national level in 2024 with the goal of recruiting 150, 000 CHWs over three years.

In Malawi, **John Snow, Inc**. (JSI) developed an SMS-based, open-source logistics management information system for community-level health products to ensure essential medicines are more readily available through better communication of stock levels and decision-making within the supply chain. cStock significantly improved supply chain management for essential health products in Malawi, particularly for community health workers (CHWs). By providing a mobile health solution, cStock has enhanced data visibility, reporting rates, and reduced stockouts of life-saving medications. This, in turn, has contributed to improved health outcomes for children under five. In 2013, Malawi's Ministry of Health (MOH) formally endorsed cStock, establishing District Product Availability Teams to use its data. Though its use declined over the years, in 2021 the government of Malawi contracted Dimagi to support the revival of cStock and its transition to local ownership.

Similarly, in Burundi, TIP Global Health has worked with the Ministry of Health and partners to deliver primary health care through E-heza. The E-Heza digital platform has been validated by the Burundi Ministry of Health and is empowering CHWs to diagnose, treat, and refer patients at the community level. By providing digital decision-support tools, E-Heza enhances the accuracy of diagnosis, ensures timely referrals, and enables real-time data capture on maternal, newborn, and child health indicators. TIP Global Health, in collaboration with the Ministry of Health of Burundi, is supporting the establishment of a national data center and ensuring interoperability and data sovereignty as part of the national E-Heza implementation. This integrated approach is strengthening the continuum of care between communities and health facilities, improving service quality, data-driven decision-making, and overall health system resilience.

For more information on Zanzibar[44], Malawi[45] and Burundi[46] see footnotes.

Government ownership, leadership, and commitment are critical determining factors to ensure the digitalisation of community health programmes at scale and in a sustainable manner. The decision to invest in the capacity and capabilities of community health systems and structures, including ensuring CHWs are digitally empowered, equipped, supervised, and compensated (DESC)[47] is ultimately a political one.

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[43] For example the Digitally empowered, Equipped, Supervised, and Compensated (DESC) programme.
[44] https://pmc.ncbi.nlm.nih.gov/articles/PMC10594132/; See also: https://www.thecitizen.co.tz/tanzania/news/national/tanzania-to-recruit-over-150-000-community-health-workers-in-three-years-4391962
[45] https://www.childhealthtaskforce.org/sites/default/files/2019-06/Sarah%20Andersson_cStock%20Malawi_11.07.2018.pdf; see also https://dimagi.com/malawi-ministry-of-health-cstock-supply-chain-management-application/
[46] https://tipglobalhealth.org/expanding-maternal-health-equity-in-burundi/
[47] https://livinggoods.org/wp-content/uploads/2022/07/Living-Goods-Capacity-Statement-April-2023.pdf

Politics makes the difference - the case of Kenya

Governments and parliaments have a vital role to play in ensuring community health is adequately recognised and fully integrated into the health system and contributing to UHC. Through laws, regulation, policies and funding, and by establishing the right management and accountability structures, politicians and civil servants can create the right incentive and governance mechanisms that will compel programme developers and implementers, innovators, the health workforce and others to ensure community health programmes are digitalised and fully integrated into the health system.

The Kenya government is a good example of how this can be done. The government has made good progress in developing the legislative and regulatory framework to accelerate the digital transformation of the health sector to achieve UHC, and in particular in digital enabling CHWs. The Kenya government established the Bottom-Up Economic Transformation Agenda (BETA) that included improving access to quality healthcare and expanding health insurance coverage, to invest in community health services. The government also passed regulation to fully professionalise over 100,000 Community Health Promoters (CHPs) that will provide them with regular wages, smartphones and comprehensive Community Health Promoters Kits. The government also enacted the 2023 **Primary Healthcare Act** that recognises CHW as a professional category, and that mandates the creation of a support structure (hub and spoke model) and the payment of a stipend to CHWs. The Act also requires ongoing training of CHWs and the government has already handed out 100,000 CHW kits. The government has adopted the Electronic Community Health Information System (eCHIS) as a means to digitally enable CHW. The **National Community Health Digitalisation Strategy 2020** recognises the importance of data and has set out a plan for the adoption and scale of eCHIS. In addition the Kenya Health Professions Oversight Authority(KHPOA) recently added 25 new categories to healthcare workers, including community health care workers and assistants. KHPOA will regulate the registration, training and professional standards of these new cadres.

The **Digital Health Act of 2023** provides for the creation of a Digital Health Agency tasked with establishing an integrated health information system that will facilitate quality health service delivery, data collection, and secure health data sharing for informed decision-making at all levels. The Act mandates the Cabinet Secretary for Health to develop a health data governance framework that will ensure the privacy and security of health data, and its accuracy and reliability. The Act recognises e-Health as a mode of healthcare delivery and calls for its integration across the health system.

The Act also calls for the development of the following regulation, in consultation with the county governments and other stakeholders:

- health information management policies and procedures;
- use of e-Health applications and technologies, medical devices and innovations;
- data quality and data protection audits;
- establishment and implementation of the data exchange component as per the Kenya Health Enterprise Architecture.

The Digital Health Act, the Primary Healthcare Act, the Facility Improvement Financing Act, and Social Health Insurance Act that legislates for the implementation of universal health coverage, all create the fertile conditions for community health programmes such as eCHIC to succeed.

Transform Health Kenya is working with the government to support the development of these legislative frameworks. The Digital Health Bill 2023, along with the Primary Healthcare Act will have a transformative impact on healthcare in Kenya. It will create a robust digital health infrastructure, improve data governance, and promote innovation and best practices, leading to improved healthcare quality, accessibility, and efficiency. However the successful implementation of this Act and its positive impact on community health will depend on the development of clear regulation, effective management, adequate funding, and continuous evaluation, adaptation and training for CHW and other health providers at the community level (such as pharmacies), to keep pace with evolving technologies and healthcare needs.

Transform Health recently conducted an assessment of health data governance legislation, regulation, policies and standards across six countries in Africa, Cameroon, Egypt, Kenya, Mozambique, Rwanda, and Senegal. These assessments found that only Kenya's Primary Healthcare Act included content around supporting frontline healthcare workers – in this case, community health promoters. According to the Act, the government is responsible for ensuring community health promoters are adequately supported in their work, including through training, supervision , and provision of tools. No other countries whose laws were reviewed mentioned specific training or other resources for healthcare workers on the collection and use of patient data. This is partially explained in that Rwanda, Mozambique, Senegal, and Egypt do not have a general health domain law or specific digital health legislation. Instead, these countries have laws related to narrower aspects of the health system, such as a universal health insurance scheme (Rwanda and Egypt) or how to collect and label blood samples (Egypt). Without laws, there is no compulsion to strengthen community health and to support CHW and other community health actors to either collect data in an effective manner or to become digitally enabled, more effective and more integrated into the health system.

See footnotes below for references.[48]

5. Adequate resourcing and investment are essential

Budgeting and financial tracking for community health are often weak, fragmented, and poorly integrated into national systems. Strengthening financial planning and tracking of community health spending, particularly for the digitalisation of community health, is vital to sustaining these systems and ensuring their alignment with national health priorities to achieve UHC.[49]

Governments typically develop community health budgets through national health sector plans or dedicated community health strategies. Costing exercises guide the estimation of resources required to deliver community health services. The ability to track community health funding across sources and levels of the health system remains very limited. Several tools are used to track health spending:

- **National Health Accounts (NHA)**: many LMICs apply the System of Health Accounts (SHA 2011) framework, though community health expenditures are rarely disaggregated clearly.[50]
- **Program-Based Budgeting (PBB)** tool allows governments to track expenditures based on outcomes, though community health is not always an explicit subprogramme.[51]
- **Financial Management Information Systems (FMIS)** are used for budget execution, but community health and CHW spending is often aggregated under primary health care .[52] Often, there are no clear budget lines for digital health within these budgets.
- **Donor tracking systems** like **Aid Information Management Systems (AIMS)** support off-budget resource mapping.[53] However, community health is often subsumed under primary health care; there is often no way to track digital health specifically.

A number of tools have also been developed to track community health funding. Tools such as the **Community Health Planning and Costing Tool**[54], **OneHealth Tool**[55], the **CHW Costing Toolkit**[56], and the **Community Health Roadmap**[57] are used to estimate CHW-related expenses (training, supervision, commodities). These tools do not consider the system requirements for the digitalisation of programmes and services. Therefore, the funding landscape related to the digitalisation of community health systems remains very murky, leading to:

- Fragmented interventions across donors and government actors;

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[48] Primary Healthcare Act 2023 https://www.parliament.go.ke/sites/default/files/2024-05/The%20Primary%20Health%20Care%20Bill%2C%20No.44%20of%202023.pdf ; and the Digital Health Act 2023 https://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2023/TheDigitalHealthAct_2023.pdf ; National Community Health Digitization Strategy 2020-2025 - https://www.policyvault.africa/policy/national-community-health-digitization-strategy-2020-2025/

[49] A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2018 (WHO/HIS/SDS/2018.X). Licence: CC BY-NC-SA 3.0 IGO.

[50] OECD, WHO, & Eurostat. (2017). *A System of Health Accounts 2011: Revised Edition*

[51] See: GFF/World Bank. (2019). *Aligning Budgets to Health Priorities: A PFM Perspective*

[52] See: https://www.worldbank.org/en/topic/governance/brief/financial-management-information-systems-fmis , accessed on 04/07/2025

[53] See: https://iatistandard.org/en/using-data/how-to-use-iati-data/aims/ , accessed 04/07/2025

[54] The Community Health Planning and Costing Tool is a UNICEF tool developed by Management Sciences for Health (MSH), under contract 43188968 funded by UNICEF, New York

[55] See; https://www.who.int/tools/onehealth , accessed on 03/07/2025

[56] See: https://chwcentral.org/the-community-health-planning-and-costing-tool-chpct/ , accessed on 03/07/2025

[57] See for example: https://www.communityhealthdeliverypartnership.org/media/516/file/Niger_Roadmap_ENG_20211228.pdf.pdf , accessed on 03/07/2025

- Lack of transparency of community health in national budgets and accounts;
- Inadequate data integration between financial systems and service delivery data;
- Weak subnational capacity for budget execution and monitoring;
- Lack of standardised expenditure categories for community health; and missed opportunity to integrate functions and scale interventions.

For community health to be effective, sustainable, and integrated within the broader health system, governments must take a proactive approach to financing and tracking both digital health and community health. By adopting dedicated budget lines, improving data systems, and aligning donor support, LMICs can build resilient community health platforms that deliver results for populations most in need.

6. A framework to address the enabling environment for integrated community health in the digital age

Digital tools and the effective use of data can enable people in communities and local institutions to take more control over their own health and well-being. With access to the right information, at the right time (and packaged in the right manner) people can make more informed decisions about their health and that of their family members and peers.

We need to recognise that the first point of diagnosis and referral for any health condition is not a healthcare worker, it is a peer or a family member, and often health concerns are addressed in the home and community, before there is a need to access the health system.

Community health needs to create the right conditions for people to maintain good health, identify and address local hazards, and respond effectively to early signs of ill health (by prescribing adequate treatment such as rest, better nutrition, non-prescription medication, etc).

An integrated digitally enabled approach to community health will accelerate UHC, alleviate the strain on the primary healthcare system, and reduce the long-term cost of care. Achieving this requires a commitment from many different local institutions working to a **Health in all Policies framework** to ensure digital solutions are locally driven, cost-effective, and efficient.

Local authorities need to work towards:

- integrated community health services to meet people's health needs
- multisectoral policy and action, with a focus on the social determinants of health
- empowered individuals, families, and communities who can lead their own health and well-being journeys.

Integrated community health services to meet people's health needs where they are at

Digital technology can provide an effective means of ensuring an integrated government approach to community health at scale. Digital technology can significantly enhance governments' ability to ensure Health in All Policies (HiAP) and ensure better responses to community health by improving cross ministry communication, coordination, monitoring, and data analysis. By using AI systems governments can also leverage different data sets and engage in predictive modelling allowing early or preemptive community level interventions, including targeted behaviour change campaigns. Data analytics can be used to identify health disparities, understand the impact of policies in different sectors (education, farming and rural development, water and sanitation, urban planning etc) on different populations, and either review policies and plans or develop targeted interventions for specific populations. Digital technology can also allow the government to measure the overall impact, effectiveness and efficiency of HiAP initiatives.

A focus on the social determinants of health through multisectoral policy and action

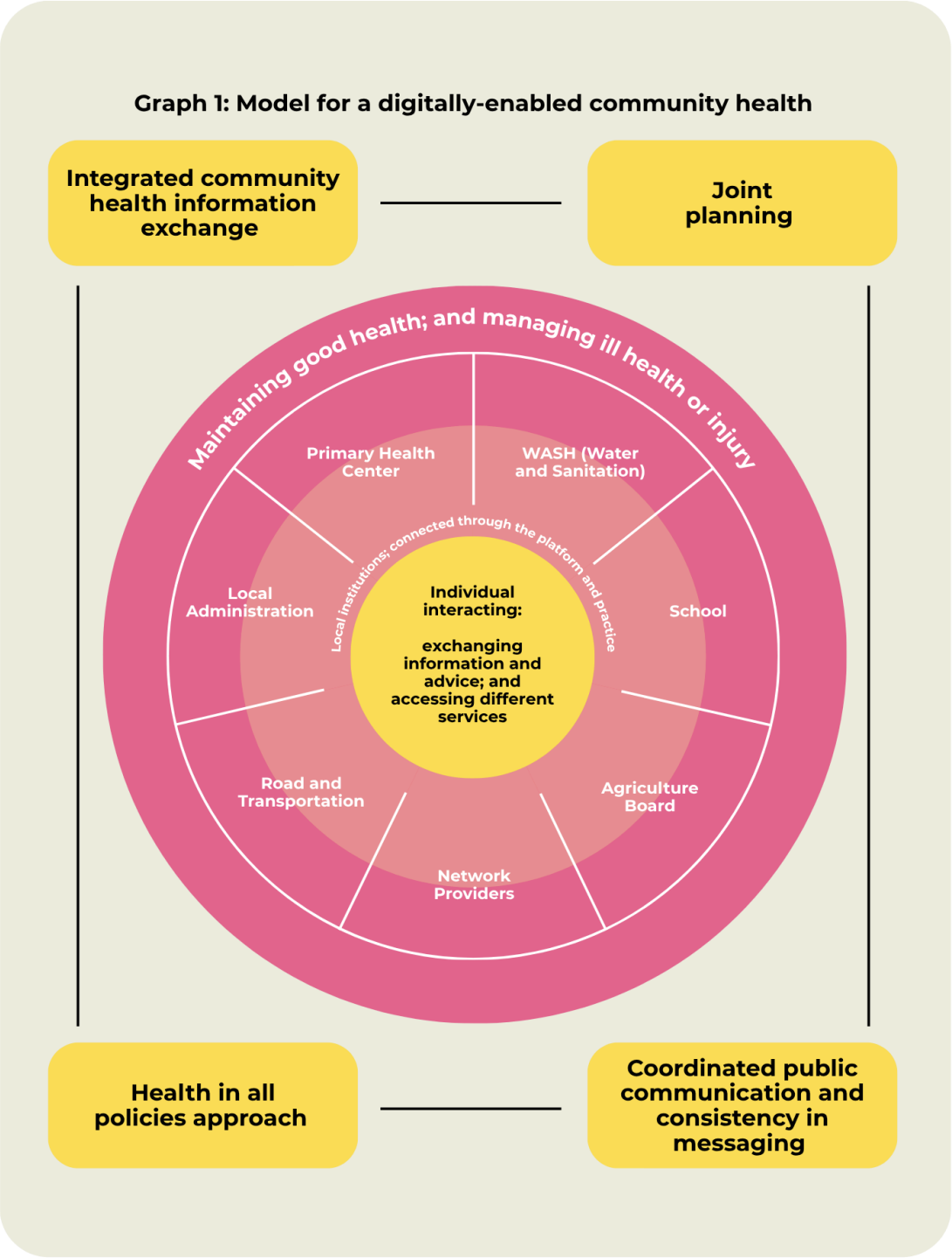
Digital technology can enable a stronger and more consistent focus on the social determinants of health by connecting various community systems through shared platforms, accessible information and capturing data that will allow more predictive assessments of community health, risks and earlier responses. These connected platforms will enable local authorities and other local institutions to address the social determinants of health, and maintain the population healthier for longer, reducing strains on individuals, families and on community health systems. Achieving this will require the partial digitalisation of local government and a well governed health data ecosystem that allows different parties to gather and access health data and data on health for public benefit purposes.

Empower individuals, families and communities to take charge of their own health

The most effective way to empower local communities is through the access to reliable and accurate health information, and through digital literacy programmes that will enhance risk perception and respond early. Governments need to invest in digital platforms to communicate health related issues more effectively to the entire population, combat misinformation and disinformation, and ensure health risks are identified and responded to. WHO AFRO's Precision Public Health Metrics (PPHM) programme is an effective platform for capturing information on health risk (at the moment mainly malaria) and developing predictive models. The power of these tools will only really be felt when the information they generate is available to local authorities and the general population. The accelerated penetration of mobile technology including access and use of smart phones allows this penetration to happen. However the process needs to be led by the government with private sector support.

A concrete example of client empowerment is the E-Heza platform in Burundi, which enables individuals to access digital progress reports following treatment. After receiving care, a client is sent a personalised report via WhatsApp, allowing them to review their diagnostic findings, track recovery milestones, monitor medication adherence, and identify any warning signs that may require follow-up care. This system transforms clients into active participants in their own health journey, promoting proactive self-care, informed decision-making, and timely action when issues arise. By making treatment outcomes transparent, accessible, and actionable, E-Heza not only enhances health literacy but also strengthens trust in the health system, improves adherence to prescribed treatments, enables early detection of complications, and contributes to better overall health outcomes at the individual and community level.

People also need to have access and control over their health data through electronic health records (EHR) so that they can be more aware of their health conditions and risk profile, and seek second opinions when required. These EHR need to capture information from multiple providers and systems to ensure that they are both complete and accurate.



Graph 1 captures some of the core components of an integrated digitalised community health model that has people and their interactions with family and peers at the centre. These individuals interact with local institutions and service providers. Linking up these local institutions both at the policy level (through the Health in All Policies framework) and at the technical (and technological) level through the use of integrated digital health platforms would enable the sharing of data. This would enable more coherent and coordinated local planning, and more streamlined and effective communication. The sharing of data for joint planning purposes will ultimately enable the implementation of the Health in All Policies framework and maintain the population healthier for longer.

Table 1: Core elements of a digitally transformed community health system

	Maintaining good health *Preventative*	**Managing ill health or injury** *Curative*
Individual	Electronic health records Access to digital devices in the home (smoke detectors for pregnant mothers and families with small children) Digital reporting applications to highlight hazards in the community	Self care applications to allow patients to manage chronic diseases. Digital payment applications to pay for prescriptions (when applicable)
	The right to access health information - given most information about health is now online, government should provide people with a point of access to online information at the community level AND ensure there is a reliable platform to provide health related information and advice that is locally relevant and accessible in local languages.	
Local, informal institutions *social groups, community groups, traditional leaders, traditional health providers*	Digitally available BCC campaigns in local languages and targeting specific groups need to be developed.	
	Traditional healers are formalised through a simple and accessible online process that is free, and that enables effective communication of health information and updates to be provided in real time and at scale. This is important as health messages may be undermined at local level by traditional beliefs reinforced by traditional healers.	
	The national government sets up a digital platform for all local governments to access health related information that can then be transmitted to its local population. This platform needs to interpret and communicate information from platforms such as WHO AFRO's Precision Public Health Metrics (PPHM) programme.	
Local, formal institutions *school, local businesses, local religious institutions*	Digital literacy is on the curriculum of all late primary and secondary schools, particularly in relation to access to health information and information for health purposes. Due consideration is given to the negative impact of information online on young adolescents' health and well being. This is provided even in remote communities, digital transformation will take place in the next few years.	
Local authorities *accountable representatives*	Using census and health data the government develops a national dashboard that maps out the social determinants of health and make this available to all elected representatives and to the public (Here is an example in Nassau county ArcGIS StoryMaps)	
	Governments ensure they have access to an online platform where citizens can report risks in the communities within their jurisdiction.	
Community Health Workers	The platform used by CHW provides access to information and digital tools to optimise their effectiveness and efficiency, and provides a space for reporting community health hazards. This information can then be accessed and acted on by local and provincial authorities.	
Local pharmacies		Local pharmacists have access to a digital platform to track prescriptions, monitor stock levels, & analyse usage trends; & support patients to comply with treatment plans.
		Governments amend legislation to ensure local pharmacies are able to leverage digital tools and technology to respond to basic health needs of communities, and to collect and input data into the health system.
National authorities	Develop legislation, regulation and policies that ensure the integration of community health into the primary healthcare system, using digital tools and technology, including through the expansion of infrastructure. Legislation, regulation and policies should mandate the use of digital solutions to implement the health in all policies approach across government departments, and incentivise the private sector to provide effective, innovative solutions to address local community health needs.	

7. Conclusion

Many governments are lagging behind on their UHC commitments. Digital transformation of community health offers one of the most effective ways of improving population coverage, service coverage, and financial protection. Legislation, regulation, policies, and guidance are critical aspects of national plans to digitally transform community health and accelerate UHC by ensuring prevention and care in the community, particularly among marginalised and hard-to-reach populations. The enactment and implementation of legislation and regulation on the digital transformation of community health sends a signal and obligation to the wider ecosystem of what is expected and required by law. This would compel all service providers, innovators, and the private sector to respond by ensuring a more systematic approach to digital transformation that places communities at the centre, extending health care to the community level, and fully integrating community health, including CHWs, into the health system through the use of digital tools and technology.

8. Recommendations

Transform Health suggests governments and implementers develop and implement a new community health policy framework, underpinned by an enabling legislative and regulatory environment, and adequate resources for the digital transformation of community health to accelerate progress towards UHC. Such a policy framework should include:

1. **Integrating community health into the development and/or implementation of a national digital health strategy.**[58] The national digital health strategy should integrate public, private, and informal providers, including CHWs and community pharmacies. It should also set out how digital tools and technology would allow communities and local authorities to report on health-related issues. The strategy should be developed with community representatives and should include:
    - A core competency framework and system requirements that will ensure community health systems and stakeholders are integrated into the health system. This should be developed in collaboration with CHWs, health staff and managers, and other relevant stakeholders.
    - A training and capacity development plan for CHWs, local pharmacy staff, and local leaders that are multilingual, culturally sensitive, user-friendly, and accessible in rural areas with minimal bandwidth or internet connectivity.
    - Mechanisms to track implementation, effectiveness, and community satisfaction across all health actors.

2. **Strengthening health data governance legislation:**
    - Endorse the health data governance principles as a foundation for more robust national legislation and regulation and a global and regional framework.
    - Champion the development and endorsement of a global and regional health data governance framework by calling for health data governance to be on the World Health Assembly and regional agendas to facilitate a discussion and collaboration amongst countries.
    - Strengthen the national data governance legislative framework, using the model law (and a future global or regional framework) as a blueprint.

[58] Aligned to the WHO Global Digital Health Strategy

3. **Developing legislation and regulation to define, formalise and integrate the digitalisation of the community health system with a countries' primary health care system and other social protection systems.** This should meaningfully involve community representatives, including CHWs and other local health providers, and include, but not limited to:
    - The establishment of a national digital health regulatory body mandated to address the needs of community health providers. This regulatory body should:
        - Certify and monitor digital health tools.
        - Enforce interoperability and data standards (e.g., HL7 FHIR, SNOMED CT).
        - Oversee the development and implementation of a digitally enabled Health in All Policies framework.
    - The licensing of pharmacies and private clinics that includes digital compliance requirements.
    - The regulation of telemedicine, e-prescriptions, and digital supply chain tools for medicine dispensing and stock monitoring.
    - Enabled community-based disease surveillance through digitally enabled reporting from pharmacies and clinics.
    - Redefined CHWs as a professional cadre ("ProCHW")within the existing health workforce, digitally enabled, and integrated into the health system.

4. **Developing sustainable financing mechanisms for the digital transformation of community health and the expansion of the health information exchange to other government ministries with the active participation of community representatives, in order to capture and share health-related data as a means of operationalising the health in all policies framework.**
    - Provide adequate funding for the expansion of the health information exchange to other government ministries in order to capture and share health-related data as a means of operationalising the health in all policies framework.
    - Create a dedicated digital health budget line within national and sub-national health budgets that includes funding for the expansion of digital health systems to the community level and that includes internet/ mobile coverage for frontline health points, including CHW and pharmacies.
    - Develop digital health insurance schemes that include digital payment systems that will ensure people do not suffer catastrophic out-of-pocket expenses.
    - Use performance-based financing to incentivise data quality, reporting, and tool adoption by CHWs and pharmacies.
    - Coordinate donor contributions under a unified national digital health strategy that includes both community health and the health in all policy frameworks to avoid fragmentation.